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Indian Standard

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(पहला पुनरीक्षण)

Guide for Illustrations in Books

(First Revision)

ICS 37.100.99

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Publication & Graphic Technology Sectional Committee, MSD 06

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Publication & Graphic Technology Sectional Committee had been approved by the Management and Systems Division Council.

Illustrations form an important part of a publication and contribute to its usefulness as well as aesthetic value. In technical works, illustrations help to elucidate the text and show details that arc difficult to describe in words. They may bring out functional relationship between variables or make it possible to compare at a glance different sets of observations, in publications of general interest, their function may also be to capture reader attention.

To get the best results, it is necessary, that illustrations for reproduction are prepared and reproduced with care. The process requires close collaboration among a number of specialists — the artist, the author, the editor, the draftsman, the process technician and the printer. The best results would accrue only when all contributing elements, such as the quality of the original art work, efficiency in processing and the quality of press work and printing materials like paper and ink meet the desired requirements. A sound knowledge of the possibilities and limitations of various processes available for the portrayal of a subject, techniques of graphic reproduction, printing methods, qualities of printing materials, etc is called for to achieve best results.

This standard is intended to serve as a guide for artists, editors, printers and publishers.

Most of the stipulations regarding design of illustrations in books given in this standard would also be applicable to a considerable extent to design of illustrations in technical publications.

The Standard was first published in 1972. This revision has been brought out to bring the standard in the latest style and format of the Indian Standard.

The composition of the committee responsible for the formulation of this standard is listed in Annex A.

Indian Standard

GUIDE FOR ILLUSTRATIONS IN BOOKS

(First Revision)

1 SCOPE

1.1 This guide specifies requirements for basic materials for design, the techniques and limitations in designing; scaling of illustrations; handling; and criteria for selection of photographs and transparencies.

2 REFERENCES

The standards listed below, contain provisions which, through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below:

IS No.	*Title*
IS 788 : 1971	Specification for ink, drawing, waterproof, coloured (*first revision*)
IS 789 : 2018	Ink, drawing, waterproof, black specification (*second revision*)
IS 1103 : 1984	Specification brushes, artist's (*third revision*)
IS 1104 : 1984	Specification for brushes, lettering (*second revision*)
IS 2037 : 1986	Specification for tracing cloth (*first revision*)
IS 3064 : 2018	Hand — Made made drawing paper — Specification (*second revision*)

3 TYPES OF ILLUSTRATIONS

3.1 Illustrations generally vised in books are of the following types:

a) Line, line and tone, halftone single or multicolour;
b) Artist's drawings with tonal values, single or multicolour;
c) Photographs, black and white and colour; and
d) Colour transparencies, negative and positive.

4 REQUIREMENTS FOR BASIC MATERIALS FOR DESIGN

4.1 The basic materials for design of illustrations are the following:

a) Paper (*see* IS 3064) or board;
b) Translucent and transparent material including tracing cloth (*see* IS 2037), tracing paper, acetate film in sheet or roll, etc;
c) Brush (*see* IS 1103 and IS 1104);
d) Air-brush;
e) Pen and pencil;
f) Tints;
g) Drawing inks (*see* IS 788 and IS 789);
h) Colours (including poster colours);
i) Crayons; and
j) Dyes.

5 TECHNIQUE, APPROACH AND LIMITATIONS IN DESIGNING

5.1 The technique, approach and limitations in designing may be considered from the following two angles:

a) Limitations from designing point of view; and
b) Limitations from reproduction point of view.

5.1.1 The limitations on the artist for the technique of designing are set by the final process of production that is whether by letterpress or offset/gravure process and whether on glazed/unglazed or coated/uncoated paper.

5.1.1.1 If it is by letterpress on uncoated paper, then the artists will have to prepare the illustrations in line, single colour or more; or tint or broad tonal gradation. If coated paper is to be used for reproduction, the sketches may be in fine line and tone, single colour or multicolour halftone with fine gradations. Alternatively, if the final reproduction is by offset process the artist will have certain amount of freedom in having a wide range of tonal gradations which can be achieved.

5.1.1.2 To get satisfactory results of halftone illustrations on different stocks of paper, the screens, given in Table 1, are suggested for production under normal conditions.

5.1.1.3 Apart from the points given in **5.1.1** to **5.1.1.2**, the designer should also be clear about the primary purpose of illustrations including what it is expected to achieve. The designer should keep clearly in view the typical advantages and limitations of the different types of illustrations, drawings, sketches, photographs, maps, graphs and charts.

5.1.1.4 Graphs and charts should be prepared with care and proportion to ensure clarity and accuracy. Plotting papers are available in different grids for use.

5.1.2 *Limitations from Reproduction Point of View*

5.1.2.1 *Line illustrations*

The following points may be considered:

a) The thickness of the lines should be commensurate with the degree of reduction required. The lines should not be too closely spaced, otherwise there is risk of 'tilling up' during printing.

b) Areas in solid ink should be uniform throughout. The portions required to be shaded should be marked out and the type of hatching indicated. In case the shading is through tints, full details of the tint specification required shall be provided. After the tints have been laid, the contour lines drawn to mark out the area should be removed carefully.

c) A black drawing on white paper may be reversed by the process technician and rendered as a white design on a black ground. In this case, the designer should show the contours and limits of the intended black ground with a boundary line for guidance.

d) While making line and tone combined art work, instead of drawing the lines on the main art work they should be drawn on a separate piece of tracing paper.

5.1.2.2 *Halftone illustrations*

For satisfactory reproduction the original should be clean and in case of photographs it should be a sharp glossy print. For economy in reproduction, illustrations or photographs for use in publications should be so prepared that they could be processed together as far as possible.
throughout.

Table 1 Screen Recommended for Halftone Illustrations on Different Stocks of Paper

(*Clause* 5.1.1.2)

Sl No.	Printing Process	Type of Paper	Screen Recommended	
			Lines/cm	Lines/inch
(1)	(2)	(3)	(4)	(5)
i)	Letterpress	Unglazed	26	65
ii)		Glazed	34 or 40	85 or 100
iii)		Glazed newsprint	34 or 40	85 or 100
iv)		Coated	40 or 48	100 or 120
v)		High gloss super-white coated	53	133
vi)	Offset	Unglazed	34	85
vii)		Glazed	40 or 48	100 or 120
viii)		Glazed newsprint	48	120
ix)		Coated	48 or 53	120 or 133
x)		High gloss super-white coated	53 or 60	133 or 150

5.1.2.3 *Multicolour work*

5.1.2.3.1 It is not necessary to have a multicolour art work, a black and white key drawing would do. The key drawing should be provided with a rough colour key sketch for guidance.

5.1.2.4.2 The colours used by the artists and the inks used by the printers sometimes differ. Some of the colours used by the artist are difficult to reproduce. Excessive use of poster white in multicolour drawing poses difficulties to the printer for exact matching of colours.

5.1.2.4.3 Where a number of transparencies arc required to be printed in the same form, the colour balance should be borne in mind (they shall have a degree of uniformity among themselves with regard to the details mentioned in **8.2** to **8.8**) as otherwise their reproduction would pose a major problem. The process technician may also be advised about all such transparencies so as to prepare sets of reproduction of similar strength to minimize the difficulty at the printing stage.

6 SCALING OF ILLUSTRATIONS

6.1 For better results, illustrations especially those with finer details should be of twice the size in which they are required to be reproduced. However, simple illustrations in same size arc acceptable. Blowing up of original for reproduction purposes should be avoided as far as possible. Reduction of illustrations to half the size is recommended but under no circumstances it should exceed one-fourth the size.

7 LETTERING IN ILLUSTRATIONS

7.1 When illustrations are to be reduced to a smaller scale the size and spacing of letters in the original illustrations should be proportionately enlarged to permit legibility.

7.2 Serif type faces should be avoided.

8 HANDLING

8.1 Art work, photographs, etc, shall be handled with care and shall be kept flat and not folded. They may preferably be sandwiched between hard cardboards. Art work may be easily spoiled through careless handling, trimming, marking, attaching clips, etc. All corrections and instructions should be marked on the overlay only.

8.2 The package or envelope for the art work, photograph, etc shall be slightly bigger (preferably 25 mm on all sides).

8.3 To avoid scratches, finger prints, etc transparencies should always be mounted.

9 CRITERIA FOR SELECTION OF PHOTOGRAPHS AND TRANSPARENCIES

9.1 Photographic original should as far as possible be sharp with good contrast value on glossy bromide paper. The matt and pattern bromides should not be selected as they will not have as good reproduction value.

9.2 The transparencies to be selected should have colours faithful to the original subject and its moods. Transparencies should have adequate middle tones for good reproduction. High contrast transparencies are not suitable.

9.3 The transparency should be sharp which means that when viewed under a magnification of 8 X, the details and depth should be crisp. The required subject should stand out in comparison to the supporting elements.

9.4 All the colours in the transparencies should be well balanced and of adequate strength. Any adjustment of any individual colours lacking in the original transparency is not practicable at the proofing and reproducing stage. It is not easy for the technician to add more of red here and reduce blue there at the time of final printing.

9.5 Transparencies should be examined from the right side, that is, the emulsion side is kept away.

9.6 All persons working with colour transparencies should use transparency viewer with similar standard light source, namely, fluorescent tubes/bulbs.

9.7 In book production work, original transparencies should not be less than 6 cm x 6 cm.

9.8 Duplicate transparencies are not as good as originals for reproduction and should be avoided.

10 EXAMPLES OF ILLUSTRATIONS

10.1 Typical examples of the following are given:

a) Fine line work (*see* Fig. 1 and Fig. 2);
b) Photograph with good tonal values for reproduction (*see* Fig. 3);
c) Photograph with poor tonal values not fit for reproduction (*see* Fig. 4);
d) Ordinary line and screen illustration (*see* Fig. 5); and
e) Four-colour line art work developed from black and white art work (*see* Fig. 6).

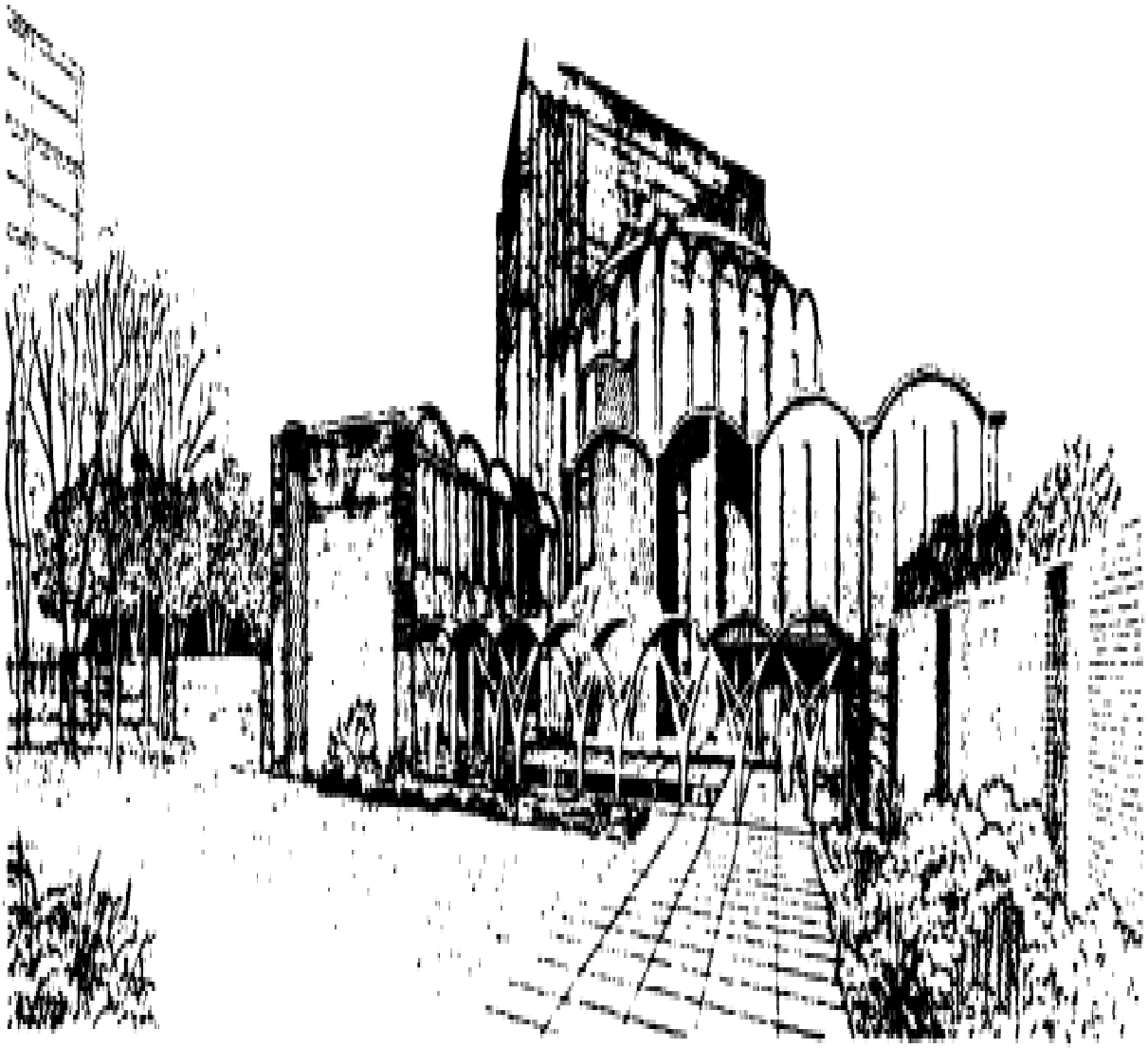

FIG. 1 A TYPICAL EXAMPLE OF FINE LINE WORK

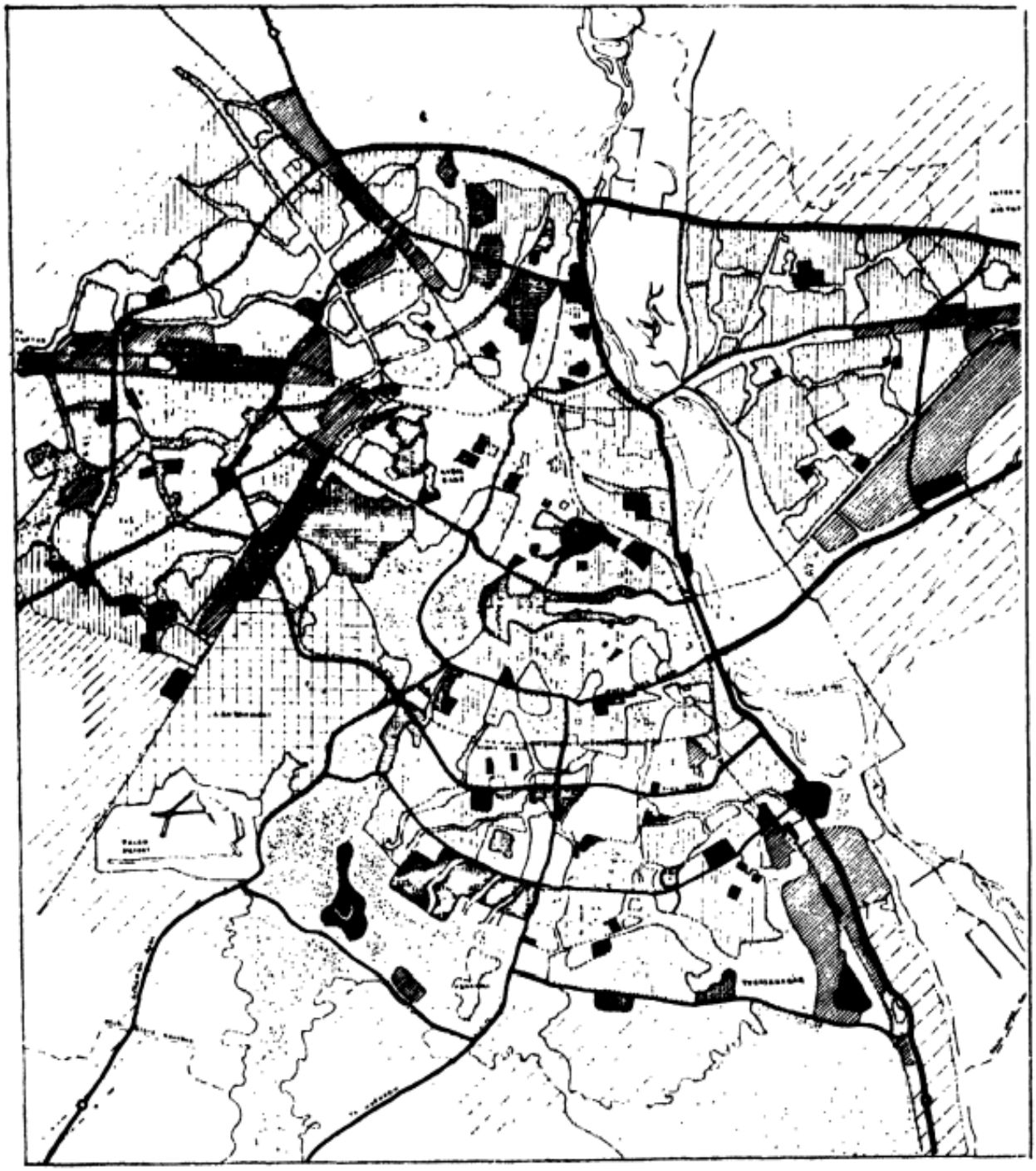

FIG. 2 ANOTHER TYPICAL EXAMPLE OF FINE LINE WORK

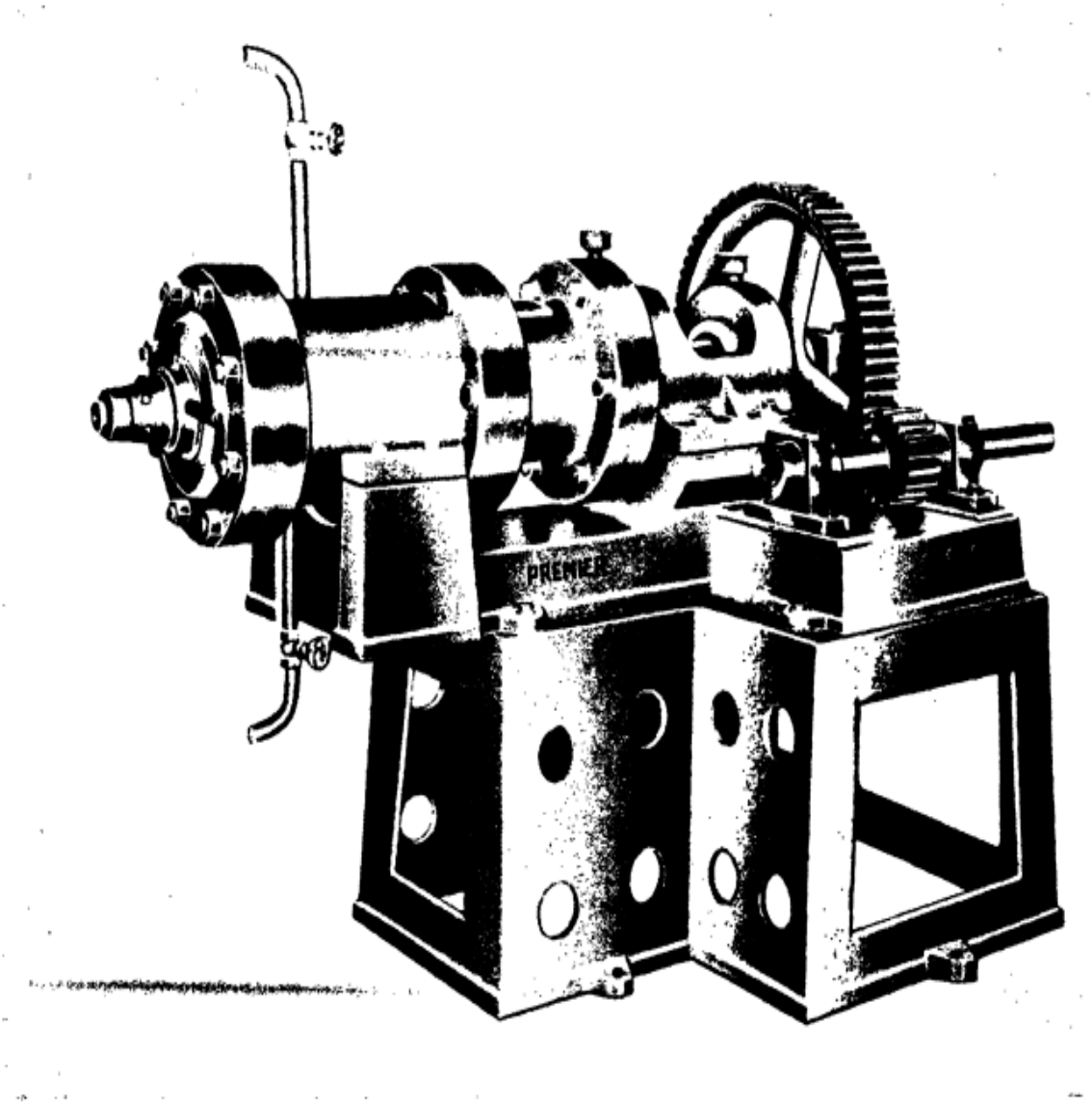

FIG. 3 A TYPICAL EXAMPLE OF A PHOTOGRAPH WITH GOOD TONAL VALUES FOR REPRODUCTION

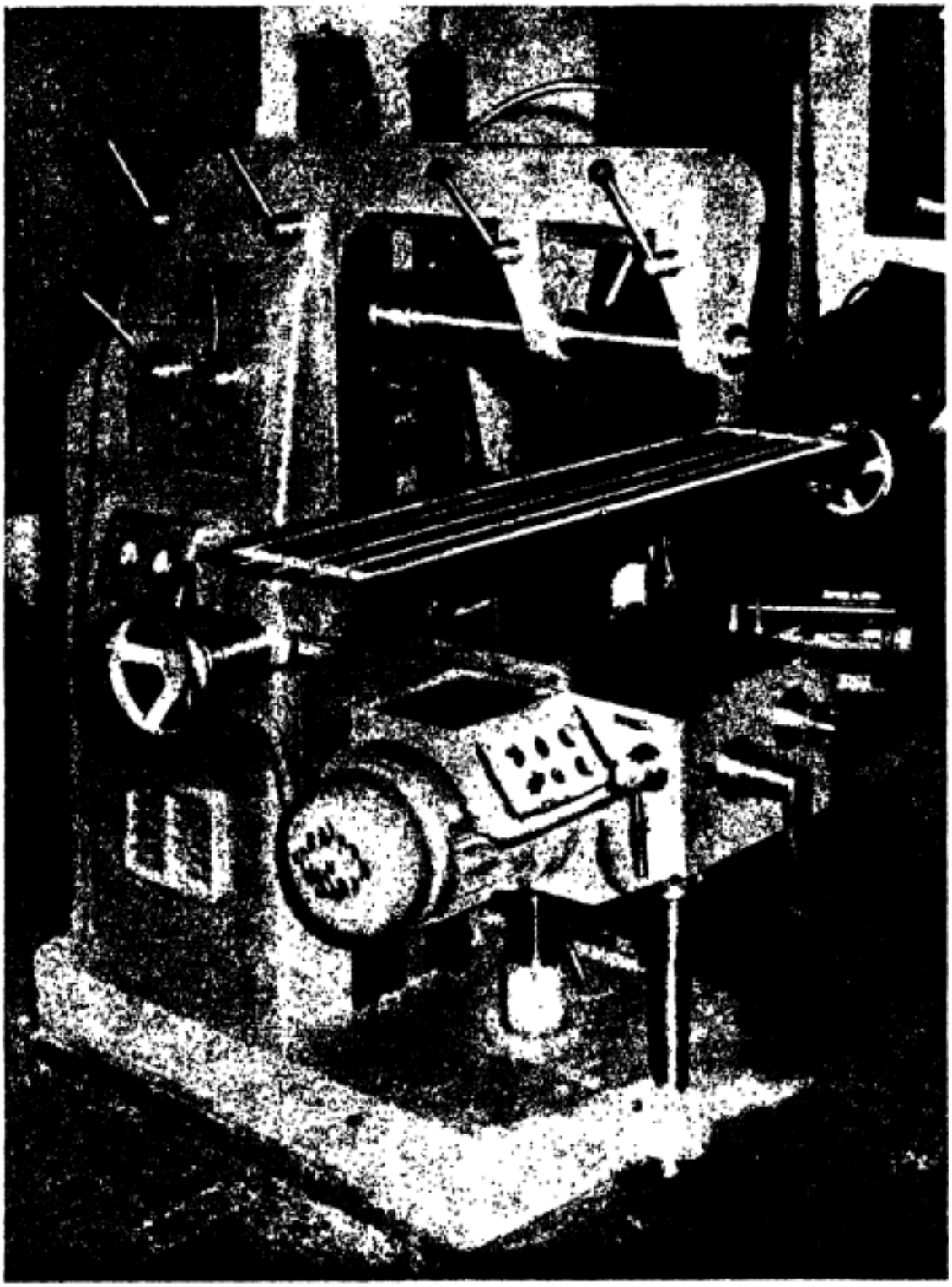

FIG. 4 A TYPICAL EXAMPLE OF PHOTOGRAPH WITH POOR TONAL VALUES NOT FIT FOR REPRODUCTION

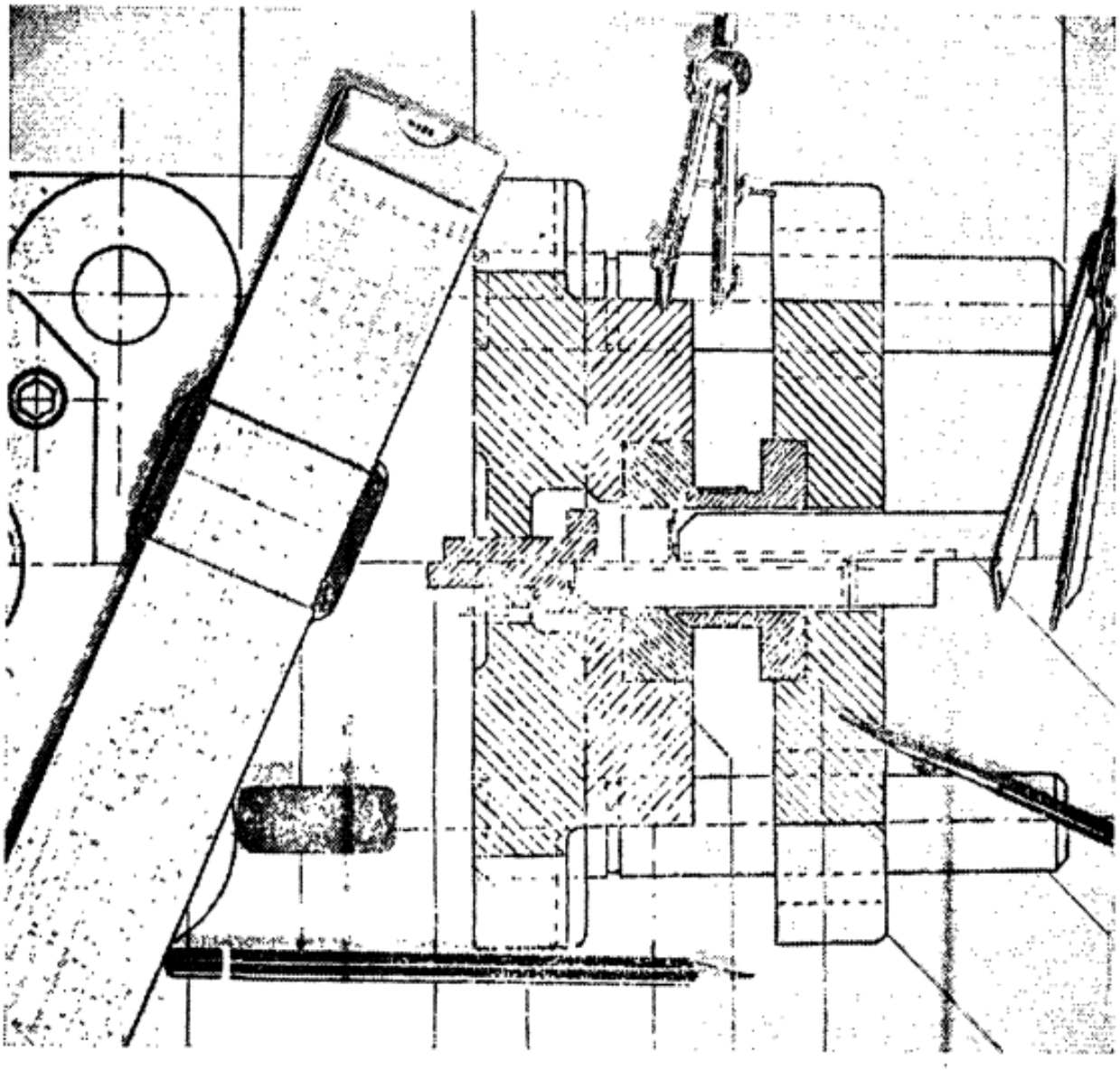

FIG. 5 A TYPICAL EXAMPLE OF ORDINARY LINE AND SCREEN ILLUSTRATION

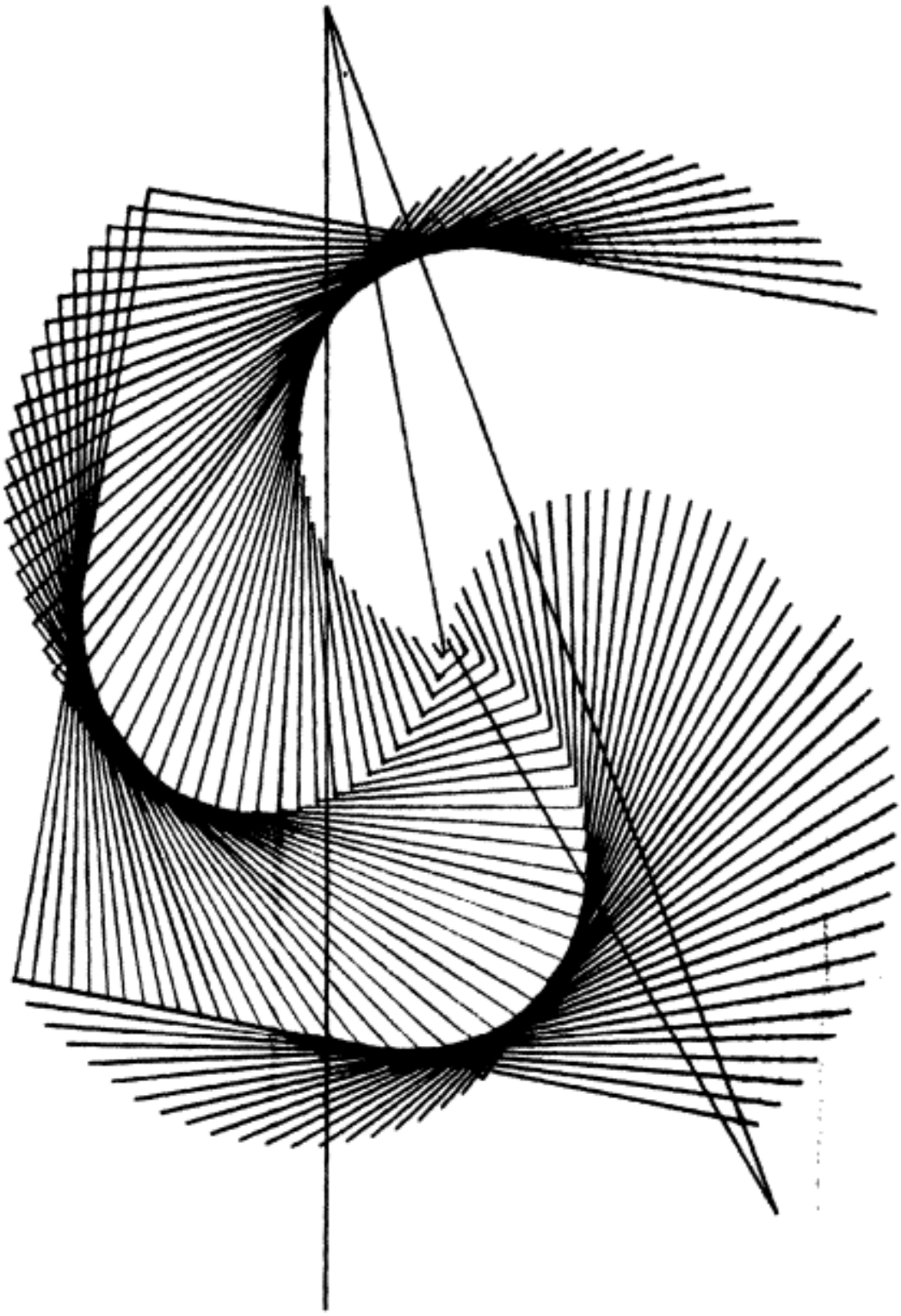

FIG. 6 A TYPICAL FOUR-COLOUR LINE ART WORK DEVELOPED FROM BLACK AND WHITE ART WORK

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Publication & Graphic Technology, MSD 06

Organization	*Representative*(*s*)
Guru Jambheshwar University, Hissar	DR ANJAN KUMAR BARAL **(*Chairperson*)**
Authentication Solution Providers Association (ASPA), Former Hologram Manufacturers Association of India, New Delhi	SHRI CHANDER SHEKHAR JEENA SHRI NITYANAND SHENOY (*Alternate*)
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The Department of Printing Technology, Anna University, Chennai	DR K. SENTHIL VADIVU
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In Personal Capacity (*Plot 12, Cross Road, 2 Lokhandwala Complex, Andheri West, Mumbai — 400 053*)	PROF KIRAN PRAYAGI
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Member Secretary
SHRI ASHISH V. UREWAR
SCIENTIST 'C'/DEPUTY DIRECTOR
(MANAGEMENT AND SYSTEMS), BIS

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in.

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